

# ATOMIC ENERGY *newsletter*<sup>®</sup>

A SERVICE FOR INDUSTRY BUSINESS ENGINEERING AND RESEARCH  
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Dear Sir:

February 7th, 1956  
Vol. 14...No. 13

An end to strong centralized control of atomic energy by the U. S. Atomic Energy Commission was recommended by the 9-man Panel on the Impact of the Peaceful Uses of Atomic Energy in its report submitted to Congress last fortnight. The Panel had spent 10-months studying the country's atomic energy resources. It had operated under the jurisdiction of the Joint Congressional Committee on Atomic Energy. (See PANEL REPORTS, p. 5 this LETTER.)

Twenty-nine uranium claims in the Crooks Gap area of Wyoming have been sold for \$1 million with the payment last fortnight of \$65,000 by the buyers giving them an option until Dec. 26th, 1956 to explore the property. The buyers will pay \$150,000 on the signing of the contract, with the balance of the payments to be completed by 1961. Claims involved are those belonging to the Split Rock Mining Co., and Crooks Gap Mining Co., controlled by Robert and Norman Harrower, of Wyoming, with 76% of the stock held by the Harrower family. The buyer was listed as K. C. Heald, Fort Worth, Texas.

Sterilization of sewage by radiation will be investigated by Hyperion Engineers, a group of Los Angeles firms retained by the city to plan improvements in existing sewage treatment facilities. Actual determination of the feasibility of the plan will be done by Nuclear Science & Engineering Corp., Pittsburgh, which has been retained by Hyperion. Preliminary plans are to remove greases and settleable solids by primary treatment from the sewage before the irradiation. Irradiation was selected rather than chlorination because Hyperion feels that chlorination may not be effective against polio and other viruses in sewage. (Other BUSINESS news, p. 5 this LETTER.)

On a low bid of \$694,220.00, Westinghouse Electric Corp. (atomic power dept.) has now been awarded a contract by the USAEC for five centrifugal circulating water pumps to be used in the submarine advanced reactor prototype propulsion plant at West Milton, N.Y. The submarine advanced reactor, a high performance nuclear power plant for submarine propulsion, is being designed and developed at the USAEC's Knolls Atomic Power Laboratory by the General Electric Co. The prototype plant at West Milton will be a section of a submarine hull containing the reactor with primary coolant system and related control, auxiliary systems, and steam producing equipment. (Other CONTRACT news, p. 3 this LETTER.)

A high temperature pressure gauge designed to give continuous accurate readings of pressure under conditions of continuous high ionizing radiation and high temperature is being offered by Callery Chemical Co., Callery, Pa. Callery, suppliers of sodium-potassium alloy for nuclear reactor heat exchangers, also manufacture electromagnetic pumps for such applications. (Other PRODUCT, PROCESS news, p. 4 this LETTER.)

The New Zealand-United Kingdom plan to use the geothermal steam of Wairakei, North Island, N.Z., to produce heavy water for Britain's nuclear reactors has been abandoned as too costly. (Other INTERNATIONAL news, p. 3 this LETTER.)

ATOMIC ENERGY FINANCIAL NEWS...

ADDITIONAL CAPITAL RAISED BY NUCLEAR ENGINEERING FIRM:- Nuclear Development Corp. of America, White Plains, N.Y., has obtained privately additional corporate financing from a group composed of Laurence S. and David Rockefeller; J.H. Whitney & Co.; William A.M. and Shirley C. Burden; Smith, Barney & Co.; and C.E. Unterberg, Towbin Co. The financing was through sale of stock in the company, and the creation of a long term loan commitment. John R. Menke, president of Nuclear Development, said the new money would be used for further development of nuclear reactor testing and manufacturing facilities. (Contracts are now held by the firm for nuclear reactor design and development for the USAEC; Pratt & Whitney Aircraft; General Electric Co.; and the U. S. Army, Navy and Air Force.)

PROFITABLE OPERATION BY URANIUM MINING FIRM:- An estimated net profit before taxes of \$625,000 was earned by Standard Uranium Corp. in the calendar year 1955, according to W. R. McCormick, president. Standard's mine is in Big Indian District, San Juan County, Utah. This was actually only a 10-months operation, he said, since full scale production of 450 tons daily began on Mar. 1, 1955. In Jan., 1955, production for the entire month was 27 tons; during February, it was 1,168. Total gross ore sales for the ten months were \$1,890,000.00, yielding a gross profit of \$1,095,000, Mr. McCormick stated. A fully audited report will be given stockholders in March, at Standard's annual meeting in Salt Lake City, Mr. McCormick advised.

DEPOSITORY RECEIPTS FOR SHARES OF BELGIAN MINING CONCERN BEING ISSUED:- Depository receipts, representing shares of Union Miniere du Haut-Katanga, are now being issued by the Belgian-American Bank & Trust Co., New York. This makes possible the open buying and selling in the U.S. of such shares. Katanga, which is the third largest copper producer in the world and which also accounts for 70% of the world's output of cobalt (according to presently available statistics of countries outside the Soviet Union or under Russian control), is a substantial producer of uranium. (While at one time Katanga was the world's largest uranium producer, new mines in Canada have now made that country the world's foremost source of uranium.)

MUTUAL FUND IN NUCLEAR FIELD BENEFITS FROM RECORD 1955 EARNINGS:- Reflecting the record 1955 earnings of U. S. industrial firms, whose stocks are held by Atomic Development Mutual Fund, was the investment income of 18½ per share earned by the Fund for the last half of 1955. This compared with 11½ earned in the comparable period of 1954. For the quarter ended Dec. 31st, 1955, the Fund sold 12,900 shares Penn-Texas Corp.; 28,300 shares Faraday Uranium Mines, Ltd.; 8,600 shares Minerals & Chemicals Corp. of America; 19,000 shares Sullivan Consolidated Mines, Ltd.; and 3,700 shares Grinnell Corp. In this same quarter it bought 19,300 shares El Paso Natural Gas (Rare Metals Corp., El Paso subsidiary, is in production of uranium and other metals); 105,000 shares Can-Met Explorations, Ltd.; 19,000 shares Consolidated Denison Mines, Ltd.; 9,000 shares Peach Uranium & Metal Mining, Ltd.; 4,700 shares Brooks & Perkins, Inc. (producing boral, radiation shielding material); \$600,000 Tracerlab, Inc., 5% convertible debentures of 1970; 7,000 shares Newport News Shipbuilding & Drydock Co.; and 15,000 shares Vitro Corp. of America.

CHANGES IN STOCKHOLDINGS SHOWN:- Changes in stockholdings recently made by officers of firms active in the nuclear field include Continental Uranium, Inc., mining firm, where Max H. Braun, secretary and treasurer, made gifts of 7,000 common shares, reducing his direct ownership to 79,200; and where Joseph L. Gidwitz, vice chairman, made a gift of 4,500 common shares, reducing his direct holdings to 836,112. At El-Tronics, Inc., instrument manufacturing firm, Harold R. Baxter, chairman, made a gift of 5,000 common shares, reducing direct holdings to 108,810. R. C. Chandler, director, bought 1,200 common shares, increasing direct holdings to 2,200.

URANIUM MINING CONCERN MERGED INTO ATLAS CORP AFFILIATE:- Federal Uranium Corp., Nevada chartered mining company shares of which are held by Atlas Corp., investment trust, has acquired Elk Ridge Uranium Corp. Three and one half shares of Elk Ridge, owner of a producing mine at Elk Ridge, San Juan County, are to be exchanged for one share of Federal. W. D. Nebeker, Federal president, said the Elk Ridge properties have been producing at the rate of 50 tons daily, which will give Federal a total output of 4,700 tons of uranium ore monthly.

CONTRACT & BID NEWS...in the nuclear field...

CONTRACTS AWARDED:- Contract has been awarded by the USAEC to Lucius Pitkin, Inc., New York, metallurgical chemists & consultants, to operate on cost-plus-fixed-fee basis the USAEC's ore-buying stations at Monticello, Marysvale, Moab, and White Canyon, Utah; Edgemont, S.D.; Globe and Tuba City, Ariz.; Riverton, Wyo.; and Grants, N.M. The firm also will operate the concentrate sampling plant and assay laboratory at Grand Junction, Colo. Previous contract operator had been American Smelting & Refining Co. The work force of 160 including M. N. Gaines, manager, are continuing under the new management.

Lump-sum sub-contract has been awarded to Western Steel Co., Salt Lake City, Utah, to construct the simulated hull structure of a large ship at the national reactor testing station, Idaho Falls, Utah. Award was made by Newport News Shipbuilding & Dry Dock Co., who are themselves sub-contractors on the project, under Westinghouse Electric Corp. which holds a prime USAEC contract for the large ship reactor project. The Western steel job is estimated at \$450,000.00.

Contract to design and construct a nuclear research reactor for Massachusetts Institute of Technology has been awarded ACF Industries, New York (nuclear energy products division). In design, the reactor will be similar to Argonne National Laboratory's CP-5, using as fuel an alloy of uranium-235 and aluminum set in a gas-proof tank of heavy water.

A \$100,000.00 contract has been received by Nuclear Development Corp. of America, White Plains, N.Y., from the U.S. Department of the Army (transportation research and development command, Fort Eustis, Va.) to determine the feasibility of nuclear powered rail locomotive equipment, harbor and inland waterways craft, and large land vehicles (so-called "land trains").

NEW BOOKS & OTHER PUBLICATIONS...on nuclear subjects...

Radiometric Surveying with Car-Borne Counter. Work by Atomic Energy Div., Geological Survey (Gt. Britain) 80 pages. --H.M. Stationery Off., London, (8s. 6d.)

Nuclear Metallurgy. Behavior of metallic materials under corrosive conditions in nuclear reactors. 96 pages. --Am. Inst. of Min. & Met. Eng., New York 18. (\$3.75)

Nuclear Notes for Industry : issue of Jan. 27, 1956. Guide to USAEC-developed information of industrial interest. --USAEC, Tech. Inf. Ext., Oak Ridge, Tenn. (n/c)

European Co-operation in Nuclear Research. Account of the 12-State European Organization for Nuclear Research. --UNESCO Publications Serv., 475-5th Ave., NYC. (20/-)

Notes for the Uranium Prospector in New York State. A guide for the prospector, lessee of mineral lands, etc. --State Geologist, Geolog. Surv., Albany 1, N.Y.

Nuclear Power & The Navy. Reprint of address by R/Adm. Hyman G. Rickover, head, U.S. Navy nuclear ship activities. --Navy League, Mills Bldg., Wash. 6, D.C. (n/c)

NOTES:- Welding of alloy steel pipes carrying radioactive fluids is discussed in February, 1956, "Mechanical Engineering". (Am. Soc. of Mech. Eng., New York 18, N.Y.)

INTERNATIONAL ATOMIC ENERGY NEWS...

GREAT BRITAIN:- A. C. Wilson & Partners, London, design engineers, in association with the Power-Gas Corp., have been appointed design consultants to the U.K. Atomic Energy Authority headquarters, Risley, responsible for designing and procuring plant and equipment to handle and manipulate radioactive materials.

An agreement has been reached between the U. K. Atomic Energy Authority and the Indian Department of Atomic Energy under which the UKAEA will provide the Indian Department with enriched uranium fuel elements for a "swimming pool" reactor now under construction at Bombay. Other assistance to India by the UKAEA includes assistance in design and construction of a high flux research reactor now planned.

SOVIET UNION:- The new Soviet Five-Year Plan calls for completion by 1960 of nuclear energy power plants with total capacity of 2 million to 2.5 million Kw. (This compares with Britain's plans to have 1.5 million to 2 million KW of installed nuclear power capacity by 1965, and the U.S.'s 6 major projects which will have a total of 689,000 KW by 1960.) The new Soviet plan also calls for large scale increases in the production of measuring and other instruments for radioactivity, and expansion of radioisotope uses in industry, agriculture, medicine and for other scientific purposes.

The Soviet Union will attend a 12-nation conference Feb. 27th, 1956, at Washington, D. C., in the United States, on a world agency to promote commercial uses of atomic energy.

NEW PRODUCTS, PROCESSES & INSTRUMENTS...for nuclear lab & plant...

NEW PRODUCTS FROM MANUFACTURERS:- Gamma ray spectrometer, model DX 41, consists of a well-type scintillation detector and two-inch lead shield, a linear amplifier, and a single channel analyzer. Also included is a preset time binary scaler and regulated 500 to 2,000-volt power supply. The instrument is said to respond well to pulses separated by 2.0 microseconds or longer time period. Amplifier and analyzer are of design used in government laboratories and in universities for many years. --Detectolab, Inc. (affiliate of Borg-Warner), Chicago 26, Ill.

New scintillation detector, model DS-5, designed for efficient gamma-ray counting, is provided with a 1-in. x 1-in. gamma sensitive sodium iodide crystal and will accept 3/4-in. x 3/4-in.; 1/2-in. x 1/2-in.; or scintillation well crystals without modification. A built-in preamplifier circuit provides a gain of 10 and a plateau in excess of 200 volts for use with GM scalers; or the unit may be switched to a cathode follower output providing a gain of 1 for use in gamma ray spectrometry. --Nuclear Instrument & Chemical Corp., Chicago 10, Ill.

A 256-channel analyzer, based on Argonne National Laboratory design, has 256 windows and a count storage capacity of 65,636 counts per window. The analyzer uses a form of the Wilkinson system of analog-to-digital conversion; counts are stored in a magnetic core memory. The apparatus consists of a linear amplifier; an analog-to-digital converter; a simple digital computer; and a data display system. --Radiation Counter Laboratories, Inc., Skokie, Ill.

New organic tagged chemicals, now added to this processor's list, include progesterone which is now available for the first time from a commercial radioisotope laboratory. Full list, specific activity, etc., from processor. --Tracerlab, Inc., Boston 10, Mass.

PRODUCT DEVELOPMENT WORK:- Commercial uses for "spent" nuclear reactor fuel elements, as a by-product of nuclear reactor power plants, may return additional income, studies at the University of Michigan sponsored by the USAEC have shown. Renting such spent reactor elements for commercial irradiation of food may return as much as \$1 million annually, according to these studies conducted by Lloyd E. Brownell. Possible uses investigated included irradiation to control trichinosis in pork and pork products, radiopasteurization to preserve fresh meat and inhibit sprouting in potatoes; and to control insect infestation in grains and flour.

PRODUCT SALES:- Twelve Van de Graaff X-ray generators have been ordered from High Voltage Engineering Corp., Cambridge, Mass., by the Donner Foundation of Philadelphia, which will donate the machines to U. S. hospitals for cancer treatment. High Voltage will supply the machines to Donner for \$68,500 each, or a total of \$822,000.00, and will begin delivery at the rate of one a month late in 1956, completing delivery by the end of 1957. Donner is supplying these 2-million-volt X-ray generators free to hospitals with the stipulation that treatment of cancer victims be done at cost. This program of supervoltage therapy may extend the life and alleviate the suffering of many cancer victims, regardless of their financial status, and is an act of the highest degree of charity by this philanthropic foundation.

RADIOISOTOPE NEWS:- The USAEC has removed certain restrictions on the sale abroad by U. S. firms of radioisotopes. It also has simplified procedures governing radioisotope handling within the U. S. These revisions, titled "Licensing of By-product Material", are effective Feb. 10th, 1956, and will appear in the Federal Register.

ATOMIC PATENT & TRADE-MARK DIGEST...

PATENT HELD VALID:- The District Court of N. J. has declared U. S. Pat. No. 2,519,864 (Geiger tube) valid and infringed in the suit of P. B. Weisz against The Matheson Co., Inc., which alleged infringement. A consent order against Matheson was issued.

TRADE-MARK ISSUED:- Trade-mark Tracer-Scanner will be issued to Tracerlab, Inc., under SN 674,020 for an "automatic device for scanning body areas in which an administered radioactive isotope has localized".

PATENT GRANTS MADE:- Among 20 patent grants issued last week (Jan. 31st, 1956) to the USAEC, were production of uranium oxide (2,733,123); recovery of uranium from waste products (2,733,125); manufacture of uranium tetrachloride (2,733,124); process for recovering uranium in presence of iron (2,733,128); and precipitation of fluoride-free uranium tetraxoxide (2,733,127).

ATOMIC ENERGY BUSINESS NEWS...

PANEL RECOMMENDS ON COMMERCIAL USES OF ATOMIC ENERGY:- After 10 months studying the atomic energy situation in the U.S., a 9-man panel headed by Robert McKinney gave its report last fortnight to the Joint Congressional Committee on Atomic Energy under whose jurisdiction it had functioned. Major recommendations were: (1) All information about the technology of nuclear reactors should be made public. (2) The economic feasibility of nuclear propelled surface vessels should be explored in the 1960-65 period. (3) More scientists should work on the thermonuclear program related to development of the hydrogen bomb since this would speed development of fusion power. (4) The U. S. should make available know-how and materials for generating 1 million KW of nuclear power abroad by 1960. (5) The USAEC should abandon the concept that all new nuclear information should be automatically labeled secret. (The 155 page document, with its 749-page supplement, will shortly be made available publicly and details will be announced in this LETTER.)

PROPOSALS FOR SMALL NUCLEAR POWER PLANTS RECEIVED:- By the deadline last Wednesday (Feb. 1st, 1956) the USAEC had received five proposals from public power groups to build nuclear power facilities up to 15,000 KW capacity with Federal aid. Latest proposals were submitted by Holyoke, Mass.; Piqua, Ohio; Chugach Electric Assoc. of Alaska; and Wolverine Electric Cooperative, Big Rapids, Mich. The Elk River, Minn., Electric Co-Operative had submitted its proposal earlier. The Holyoke plant would be built by Ford Instrument Co., (div. of Sperry-Rand Corp.) and Sanderson & Porter, N.Y. at an estimated cost of \$10 million. A closed cycle gas turbine system developed by Escher Wyss, the Swiss concern, would be used. Sanderson & Porter, which owns half of American Turbine Corp. with Escher Wyss, reported there are no closed-cycle turbine installations in the U. S. now. Chugach Electric's 10,000 KW plant would be built by Nuclear Development Corp. of America. Wolverine would have a 10,000 KW plant using a liquid carrier for the nuclear fuel. It would be built by Foster-Wheeler Corp. For the City of Piqua, Atomics International (div. of North American Aviation), would build a 12,500 KW plant. The Elk River, Minn., plant was designed by AMF Atomics, Inc. (subsidiary of American Machine & Foundry).

POTATO IRRADIATION STUDY INITIATED:- A joint program to evaluate irradiation of food for civilian and military markets has been started by the U. S. Army's Quartermaster Corps. and AMF Atomics (subsidiary of American Machine & Foundry). The basic food studied will be potatoes from Maine and Idaho; facilities of the national reactor testing station, Idaho Falls, Idaho, will be utilized. Process costs to inhibit sprouting will be one aspect studied. Companies participating include Idaho Potato Processors' Assoc.; J. R. Simplot Co., Boise, Idaho; Miller's Prepared Potato Co., Chicago; Arrowhead Production Co., Inc., Antigo, Wisc.; Tater State Potato Co., Washburn, Me.; and H. C. Baxter & Bros. Co., Corinna, Me.

EXPANSION PLANNED BY FIRM IN NUCLEAR FIELD:- A major expansion of its sales and distribution efforts is planned by Nuclear Corp. of America, New York, according to Sam Norris president. (Nuclear Corp. was formed by merger of Reo Holding Corp. and Nuclear Consultants, Inc., after TelAutograph Corp. won control of Reo Holding.) On Dec. 9, 1955, Nuclear Corp. acquired Radioactive Products, Inc., Detroit, for 146,000 shares of Class A Stock, currently selling on the American Stock Exchange for \$2.37 $\frac{1}{2}$ . Nuclear Corp. is interested in capturing a part of the industrial market for nuclear process control instruments, Mr. Norris explained. He said his firm is now discussing acquisition with several companies in the nuclear and advanced electronics field, and hopes to acquire two more "good companies" in 1956. He estimated present gross billings of Nuclear Corp. at around \$2 million annually, with an increase to \$5 million in 1956 if further companies are acquired.

SALES REPRESENTATIVES TO SPECIALIZE IN NUCLEAR FIELD:- Atomic Associates, Inc., have become exclusive sales representatives in New England, New York, New Jersey, and eastern Pennsylvania for the complete line of radioactivity instruments and electronic control equipment manufactured by Atomic Instrument Co., Cambridge, Mass. Main office of Atomic Associates is in New York, under the direction of Jack R. Carlin, former district sales manager for Tracerlab, Inc.

Sincerely,

The Staff,  
ATOMIC ENERGY NEWSLETTER

